cont. from page 15

-Even with gas control regulations, methane and air pollutant mitigation is accomplished automatically by electricity generation, offsetting costs of abatement by other routes--thus there is still public good in terms of cost saving to the public (which in the end, directly or indirectly, bears nearly all abatement cost). In addition, regulations, even when they apply, are inefficient at abating emissions for several reasons.

(a) efficiency of "control only" landfill gas recovery systems without further measures to maximize gas recovery is only 50-90%

(b) there is inefficiency of rule driven biogas recovery for other technical reasons, e.g.**:**

i. Federal and California rules really address only VOC's in landfill gas. There exists no U.S. or California statutory authority, whatsoever, to control methane emissions to the atmosphere per se (and, methane control is what offsets utility sector greenhouse CO_2). For landfill gas, VOC levels are low enough so that sites with potential to 5MWe or more (thus most sites) can escape methane emission control[13].

ii Final federal clean air act rules exempt landfills below 2.7 million U. S. tons a priori from control; thus landfills below 2.7 million tons, containing about 40-50% of all U. S. waste will escape control unless other mechanisms can ensure recovery.

iii For California, a landfill surface concentration standard to drive control is sufficiently imprecise (i. e. for fugitive emission assessment) that large fractions (> half) of landfill gas may occur as well.[14]

iv. Manures (major sources of greenhouse gases) are exempt from gaseous emission controls

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[13] This is supported in letter communication and documentation of Don Augenstein to Mark Najarian, then head of EPA clean air act implementation, March 21, 1994. Supportive information is published as well in the March 1994 proceedings (Augenstein, D. "Landfill Gas Control, Landfill Gas Regulations and Climate Change--some Practical Considerations") and March 1996 (S. Hill paper) proceedings of the Landfill Gas Division of the Solid Waste Association of North America.

[14] See letter of Dr. Stanley Zison to James Behrman, Toxic Program Support Section, California Air Resources board, dated May 15, 1990. Also letters and documentation of Don Augenstein to William Schuldt, Yolo-Solano Air District, and Renaldo Crooks, California Air Resources Board, December 12, 1994. Both these communications make the point that measured surface gas concentration is far more the correlate of meteorology than fugitive emissions

However with electric revenue and profits at stake, landfill and other biogas can be expected to be "scavenged" to maximize electric power generation from the biogas at given sites (this is amply substantiated by experience with landfill gas fueled electricity production under California's SO-4 contracts). This will substantially increase CH_4/VOC emission abatement. Public good from emission abatement is proportional to biogas energy use for electric generation. This argues for increasing electric power generation from biogas in California. Also**:**

-In considering "public good" we emphasize that the DOE 1605 (b) rules for voluntary reporting of greenhouse gas abatement give full credit for methane abatement when driven by regulations or not.

All of the public good arguments are explicitly or implicitly reflected in federal and California programs and statutes. However the gas control (and thus public good) resulting from present regulation is at best partial. Additionally, economics for most biogas use are presently too poor to support current EPA and DOE biogas energy use initiatives that are important parts of the Climate Change Action Plan. For example the economics for gas use are presently poor enough that only about 15-20% of California landfill gas finds beneficial energy use. The balance is wasted, in large part by atmospheric emission.

Promotion of environmental benefits as discussed above, via GEC's and increased revenue, could help significantly toward offset of adverse effects of climate active gases for which the utility sector bears responsibility. These climate active gases are also of major federal and international concern. It also values local air quality benefits according to statute. In summary a sufficient sale price for electricity from biogas in the restructuring process via the GEC addresses these problems, and maximizes public good in terms of greenhouse gas and other emission abatement.

Note A-6. Landfill gas and manure biogas electric potential in California

California landfill gas electricity potential is estimated by prorating the national potential stated by EPRI or U.S. EPA (roughly 5000-7000MWe) according to population. This is valid given per-capita waste disposal and methane generation that is similar across the U.S., which seems very likely (there appears to be only modest national variation in such values).

For manure methane, in the reference of Whittier et. al., the gross methane from manure potential in California is cited as 20 billion cubic feet per annum. Assuming 25-50% of this can be economically captured for electricity the electric potential from manure in California, at heat rate of 12,000 Btu/kWh, is about 50-100MWe.

4. Implementation Issues and Section II Questions: Consequences of Proposed Approach in Restructuring

a. What is the Obligation?

a.1 How is "renewables generation" defined for purposes of qualifying for tradeable "renewables energy credits" (REC's) under this proposed program? Do existing and utility-owned renewable-resource generation qualify for Renewable Energy Credits?

Renewables generation is defined on a kWh basis, except that biogas kilowatts are given a Greenhouse Environmental Credit in addition to the Renewable Energy Credit (REC) of other renewables. See AWEA for more detailed definitions of renewables. In addition to AWEA's definition, hydro may be included, but factors need to be addressed as noted in a.8

See AWEA--existing utility-owned renewables are included

a.2 *What are renewable energy credits? How do they relate to energy portfolio management?*

See AWEA or IEP. RECs represent a value assigned to one unit of energy production, one credit per kWh of production except for biogas which receives a greenhouse emission credit (provisionally, equal to another REC) as well as a renewable energy credit in this proposal.

A renewables purchase obligation would require each UDC (or any entity) selling electricity to retail (end-use) customers to be responsible for purchase and distribution of a pro rata share, constant statewide, of renewable power or corresponding RECs for renewable power. The entity's purchase obligation for (renewable power + corresponding RECs for renewable power) is expressed as a percentage of total retail sales of electricity. The purchase obligation could include as well a pro rata share of banded solid fuel biomass, and pre-commercial technologies (including manure biogas) as in proposals of others including the present proposal, IEP, the CEC or AWEA.

a.3 *How is a diversity of renewables encouraged?*

Electricity from biogas is effectively favored. However it is proposed that its allocation be expanded so that all electricity from biogas is accommodated to maximize cost-effective climate benefits, without reducing the allocation for other renewables . By expanding the REC/GEC allocation in this way, the generation from, and diversity of, renewables would be essentially unchanged from that would otherwise exist absent biogas to electricity. Otherwise see IEP or AWEA

a.4 Are currently high-cost technologies or pre-commercial technologies fostered by this program?

Yes. Much electricity from biogas is high cost (in terms of costs for electric power alone, without considering climate benefit). This proposal facilitates its use by factoring in the climate benefits through the GEC.

This proposal additionally concurs with AWEA and IEP on banding of solid-fuel biomass facilities. It also agrees with the CEC staff proposal proposing the tier approach. In the CEC tier approach, pre-commercial technologies receive higher revenue than renewables developed to greater degrees of commercial deployment (like wood, wind, geothermal, etc.). The higher revenue is achieved through mechanisms such as increased REC's per unit of power generated, or perhaps other mechanisms (to be more fully developed by CEC).

A specific issue is that manure biogas is sufficiently far from wide commercial deployment so that it should be placed in a higher revenue tier, possibly by more than one GEC or REC per kWh. If a limited amount of generation (say,10MWe) is in a higher revenue tier it should not be subject to the cost-effectiveness standard.

a.5 How is renewable self-generation handled? Is self-generated renewable energy eligible for Renewable Energy Credits (REC's) or for other means of support?

Renewable self-generation, as with grid-delivered, does provide the benefits of renewables. However renewable self-generation already presumably nets a premium in "backing out" higher cost retail electricity. It is also harder to track, presenting administrative difficulty. It is in addition already economical (or it would presumably not be done). On these bases it is suggested that renewable biogas self-generation be excluded or perhaps (though it would be administratively intricate) should receive lesser credit perhaps only the REC per kWh.

a.6 How are hybrid fossil-fuel/renewable facilities handled?

The REC's assigned per kWh of output should represent, as well as possible, the fraction fueled by, thus attributable to, the renewable resource. Thus if the renewable fuel thermal energy fraction is 75% each kWh would represent 0.75 REC. In the case of biogas the GEC's would be prorated as well on biogas heating value. (This issue is quite pertinent because of cofiring progress made and applied both with landfill gas and wood/fossil. However the approach may also become administratively complex during fossil/biomass fueling ratio changes, etc.)

a.7 Does out-of-state generation qualify for REC's? Is it desirable or necessary to protect in-state California renewable energy generators from out-of-state competition? Is it possible?

The treatment of GEC's and REC's for biogas is as with REC's for other renewables--out of state generation would appear eligible under the commerce clause, and restrictions would not appear possible.

a.8 If hydro is included, how are practical issues associated with hydropower handled?

Hydro may not be included. (AWEA or IEP provide more discussion). If hydro is included as advocated in some proposals then it may be necessary to separate its band from other renewables to avoid complexities and untoward effects of year-to-year hydro variation on levels of other renewables' use. To avoid yet other complexities it may also be most desirable to include only new hydro online since (say) 1/95 (SMUD approach).

a.9 How are utility-owned distributed renewables handled? Does the proposal permit or prohibit REC's being awarded to distributed renewable power not sold through the power exchange? How does the proposal guard against self-dealing or cross-subsidization? For example does the proposal permit REC's to accrue to applications that may involve the cross-subsidization of generation with T&D savings, or vice-versa?

AWEA or IEP approaches are valid for handling of utility-owned distributed renewables.

There is likely T&D saving with electricity from landfill gas and digester gas. Saving accrues from the fact that these are nearly all adjacent to population centers that use the electricity. This is likely a "bonus" that will to some extent improve overall system efficiency and lower cost. How much of a bonus it comprises cannot be estimated at this time.

a.10 What is the level of the requirement? How does this level relate to the level of renewables from 1990 to the present? Does the level of the requirement increase over time, and if so, at what rate?

A base level of 10% renewably based electricity as of the start date is proposed (identical to AWEA proposal), <u>plus</u> however much electricity may be generated from biogas. A level of 10% is slightly below the maximum renewables output that was achieved (in 1993--see AWEA, citing statistics provided by CEC) and should result in adequate competition. An increase of 0.2% per year as the renewable fraction of the total generation portfolio is proposed (as with AWEA).

a.11 Describe how, if at all, the compliance obligation adjusts during a transition period.

The compliance obligation may need legislation developed to bring utilities not under CPUC jurisdiction under the obligation. See answer to next question.

a.12 Does the proposal provide a uniform requirement for all electric providers, including utilities, on a statewide basis?

It is anticipated here that initially, all utilities/UDC's subject to the jurisdiction of the CPUC would purchase power or REC's sufficient to attain the renewables requirement. Eventually the obligation would apply to all entities selling power to end-users. See also a. 2. Legislation may be required to bring the entities other than IOU's in.

a.13 What is the time-horizon for the program?

(Note: Financing of new renewables facilities, which increases competition, may be contingent on an expectation that a market for renewable power will exist for an extended period of time)

Starting as soon as possible. The portfolio requirement should at minimum continue for a long enough period for renewable projects to obtain financing, 10 years or more. We would propose that it continue indefinitely, to the extent a credit continues to be justified by environmental and conservation benefits, and so long as renewably-based generation costs are in excess of fossil-based.

a.14 Is the requirement established on a percentage of megawatts or percentage of megawatt hours basis?

Megawatt hours, since benefits are proportional to megawatt-hours generated. As Greenhouse Environmental Credits are envisioned an added GEC + REC purchase obligation would be as a pro rata share of whatever electricity megawatts are generated from biogas.

a.15 Does the proposal establish floors for certain technology types? What is the rationale for a technology floor, if proposed?

Solid fuel biomass, and pre-commercial technologies, are allocated floors. The floor for solid-fuel biomass assures continuation of desirable levels; the floor for the precommercial technologies helps their development to commercial status. In the case of biogas, a GEC is proposed in addition to an REC, with initial effect that a kWh receives an REC twice that for other technologies. This treatment for biogas has effects similar to a floor, but greater flexibility in promoting use and environmental benefits and is based on the additional climate benefits.

b. Where is the obligation to comply?

b.1 On whom is the requirement applied? Is the requirement applied only to entities under the CPUC's jurisdiction, or is it applied statewide?

It seems most practical that the requirement should be imposed on <u>all</u> utilities or other entities selling electricity at retail (i. e. to end users), including municipally owned and others not now regulated. Legislation is required to accomplish this.

b.2 Are regulated retail providers treated similarly to unregulated retail providers? If not, what are the differences? What is the status of entities not under CPUC jurisdiction in this program?

See AWEA, for discussion of treatment of regulated vs. unregulated retail providers. Entities not under CPUC jurisdiction will remain so until legislation enables their control.

b. 3 What is the penalty for non-compliance? Should this penalty be interpreted as a cost cap for this program?

Other proposals would fix the penalty in terms of REC shortfall, which would in turn effectively fix penalty for the GEC.

b.4 How is non-compliance determined? Who is responsible for determining non-compliance and for resolving disputes arising from such a determination?

See AWEA

b.5 What provisions and flexibility are there in compliance?

For administrative purposes and those of evaluating compliance, the GEC would be treated as its REC equivalent. Otherwise this question is not applicable (N.A.).

b.6 How does the program ensure that the policy and its costs are non-bypassable, such as the CTC or public goods surcharge?

See AWEA

c. How are Renewable Energy Credits Initially Allocated?

c.1 How are REC's generated from existing renewable facilities (QF's and utility-owned) initially allocated? What impact does the initial allocation have on whether a vigorous market for REC's, characterized by many buyers and sellers, forms?

See AWEA, c.1. This would apply to REC's resulting from GEC's as well.

c.2 What is the relationship of the allocation of the renewable energy credits and the CTC or Public Goods surcharge? Will REC's accrue to technologies, such as on- and off-grid renewables, in a way that would encourage customers to disconnect from the grid and avoid the CTC?

N.A.

c.3 If customers or ratepayers are initially allocated REC's, how are the credits administered?

N.A.

c.4 How would the proposed Renewable Energy Credit allocation affect negotiations to buy out existing QF contracts? Would it encourage or discourage such buyouts? Would it make them more or less cost-effective to ratepayers?

See AWEA.

c.5 How does the initial allocation deal with the possibility of windfall profits accruing to individual renewables generators, or types of generators?

Some commercial enterprises do better than others and some, through care (or luck), do extremely well (windfall). To address this problem:

We suggest earlier ongoing projects be "grandfathered" to their existing contracts as long as operational under contracts giving higher than market prices (market prices being the averaged statewide renewable sale prices to the pool, counting REC's). After expiration of QF contracts the GEC could be set equal to half of an REC, to limit profits. Treatment of new and old facilities would otherwise be the same, i. e., both new and old facilities would receive one REC per kWh from biogas-based power sold to grids.

To accomplish the intent of this proposal, which is to maximize greenhouse gas abatement, we also suggest a provision such as the following:

-To receive the GEC, sufficient generating or other equipment be in place so all recoverable biogas is used or abated. This can be evidenced by biogas-fuel-limited operation of energy equipment[15] (This condition would provide strong incentive for efficient methane recovery and thus the greenhouse emission minimization which is the major corollary objective of electricity from biogas.)

Regarding the "windfall", we note that benefits accruing from the increased GEC would accrue largely to entities managing the wastes which generate methane. In cases of both municipal solid waste, and wastewater, management, revenue benefits of electricity generation return largely to the same base of ratepayers as pay for electric power.

[15] Modular biogas-fueled IC engine capacity (or, soon, fuel cells) can be installed to meet this condition; alternatively other energy uses, or supplemental flares can assure minimum fugitive emission as well but energy uses with corresponding revenues are considered to provide maximum incentive for abatement.

c.6 Does the proposal potentially increase the value of utility owned renewable resources in a way that would encourage their divestiture? If so, how should ratepayer interests be addressed?

See AWEA

d. How is the Program Administered?

d.1 What agency certifies the REC's, and what does the certification process entail?

The CEC appears a likely candidate. Most relevant for this proposal, the agency certifying REC's would certify GEC's as well.

d.2 What mechanisms are proposed for trading of REC's? How do the trading mechanisms relate to the initial allocation of REC's?

See AWEA or other proposals. However a Greenhouse Emission Credit (GEC) is envisioned as trading at its equivalent REC value, and otherwise in exactly the same fashion as an REC.

d.3 What mechanisms are envisioned for program oversight and mid-course corrections?

N. A. This proposal is intended as an adjunct to other proposals in which those issues would be addressed. Adjustments to the GEC approach should be readily possible in conjunction to adjustments to the REC approach.

d.4 What agency monitors and enforces compliance with the program, and how is it carried out?

N. A. This proposal is intended as an adjunct to other proposals where such issues would be addressed. However, note that the agency would monitor the administration of electricity from biogas and assure that requirements associated with GEC's as well as REC's are met.

e. Cost Related Issues

e.1 What are the costs associated with the program, and who pays?

Two foreseeable cost components, are the GEC/REC cost, and the administrative cost. These are passed through to the ultimate electricity consumer. At this point, the REC value and the administrative costs are uncertain. However a "rough cut" is attempted here:

The REC may end up in the neighborhood of $0.02/kWh. Given this and that a GEC = 1.0 REC's, the extra cost per biogas kWh would be $ 0.04/kWh. The resulting GEC value of 0.02/kWh is incidentally, a low end valuation of the greenhouse gas abatement, and a low-end total for abatement of all emissions through biogas use (see Table 2, Note A-4)

It is further estimated that landfill biogas based generation in California will rise to 500MWe from 150MWe in response to this price, and that manure biogas coming online in response to price is 50MWe (bases for these estimates are presented in Note A-6). Sewage digester biogas based generation would also rise, to 50MWe. At 90% service factor, and assuming that the GEC applies to all electricity from biogas, the estimate of incremental cost due to GEC alone can be calculated as $ 100 million:

600MWe x $20/MWe x 8760hr/yr x 0.9 service factor = $94,608,000 (≈$100 million)

Administrative costs should be small as an increment, possibly the order of a few hundred thousand per year inasmuch as the GEC would be treated in parallel with the REC.

e.2 What cost-containment measures, if any, are provided?

A cost cap is inherent in any cost cap applied to the REC in the portfolio standard ultimately resulting. Several other factors inherently limiting cost of the obligation, as noted in the overview are competitive determination of GEC value (through the REC) and the size of the resource eligible for the GEC. Yet another factor limiting costs is the cost effectiveness standard imposed in terms of climate active gas abatement.

e.3   If the program utilizes floors for certain technology types, what are the implications in terms of costs and benefits?

The allocation of the GEC has effects somewhat akin to a floor, and results in abatement of climate active gas emissions from a source where it can be accomplished with maximum cost-effectiveness.

Another higher floor may be applied for technologies in earlier stages of development sucha electricity from animal manures.

e.4 Will implementation lead to cost-shifting between consumers or regions of the state?

Not anticipated

e.5 How is competition within and between renewable technologies encouraged? Between existing renewables facilities and potential new facilities?

Generation of electricity from biogas would be favored over other renewables, by whatever monetary value attaches to 1 REC/kWh (and by 2 REC/kWh over the balance of non-renewable generation). However keeping the REC allocation (as percent of total power generation) for other renewables technologies constant, means competition between other renewables occurs essentially as it would without electricity from biogas. On the second part of the question, existing renewables facilities and potential new facilities would compete together for the same "customer" base.

e.6 What implications if any does the proposal have in defining the roles of the LDC and of competitive suppliers of electricity?

N.A

e.7 What is the consistency of this proposal in relation to cost-related guidance provided by the CPUC Roadmap?

N.A.

f. How does the Program fit with Other Aspects of Electric Industry Reform?

f.1 Is the system compatible with the existence of an independent system operator? A Power Exchange? A Direct Access Market? Is the proposal consistent with the Commission's vision of the role of the Power Exchange and ISO?

Compatibility with all of the above should be as with the approach using the REC alone.

f.2 Is the proposal dependent in any way on the power exchange or ISO? If so, are there any additional protocols necessary?

N.A.

f.3 Does the proposal involve conflicts of interest of interest between distribution and competitive retail service? If so, how are they resolved?

See AWEA

f.4 How does the program avoid conflicts of jurisdiction between state and federal levels?

No issue is envisioned that would not otherwise occur with a program based on REC's alone.

f.5 What is the relationship between the proposal and direct access "green marketing"?

The relationship would be the same as with other renewables proposals. Green purchasers may electively buy power from biogas (example was given in the text).

f.6 What is the relationship between the proposal and Performance Based Ratemaking (PBR)? Does the proposal place REC's under PBR or exclude REC's from PBR?

The UDC's (or other entities responsible for purchase of renewables or REC's) should not be financially penalized for swings or variations in the RECs or GEC precursors which they are mandated to purchase. Inasmuch as mandated for societal benefits, these costs should be passed through, directly or indirectly, to electricity end-users--.

f.7 Does the program create any potential market power problems involving the generation market or REC's?

None foreseen

f.8 How does the proposal relate to any consumer protection or consumer education efforts? For example:

a. Rules for new entrants: Does the proposal require any licensing requirements for new entrants? Should compliance with the minimum renewables requirement be a condition of selling power at the retail level?

Consumer education: does the proposal require any consumer education? For example how does the proposal protect consumers from "green marketing" programs where marketers collect twice--once for credit sales and once for "green" power sales thereby not increasing total green power? This could entail, e.g., disclosure requirements to inform consumers about the amount of renewable green power they are purchasing that are supported by REC's or statements regarding price stability or price risk of the seller's resource portfolio. Would REC's accrue to utilities from green pricing programs where utilities have unique customer information and access?

Power sold at the retail level, by any seller, would need to be in compliance with the standard that develops. We note that consumer education issues should be essentially the same as with REC's

f.9 How if at all does the proposal relate to the RD&D programs funded by the public goods surcharge?

The proposal supports "bands" that would facilitate pre-commercial technologies. One specifically, is biogas from manure.

f.10 How, if at all, does the program relate to the energy efficiency programs funded by the public good charge?

N.A.

f.11 How does this proposal affect the CEQA compliance work recently initiated by the CPUC?

This proposal addresses what should be a central issue of utmost importance in the CEQA compliance work**:** the net emission of climate active gases by the utility sector. It also addresses air quality and other environmental benefits. It also incidentally, addresses emissions of a gas, methane , which participates in destruction of stratospheric ozone.

5. Legislative Requirements

5.a. Can the CPUC implement this program by itself, or is legislation required? What would the legislative requirement be?

It will only be stated here that the needs should be very similar to those involving an REC alone.

5.b. What steps are needed to implement the program and how long would it take? How does this implementation timing relate to the CPUC's 1998 implementation goal?

Probably close to the time that would be required to initiate a program based on REC's alone. We suggest (as does AWEA) that implementation be accelerated if possible--see AWEA.

6. Positions of the Parties in Favor/Neutral/Oppose

DRA Comments On The Adjunct Proposal By Biogas Association

DRA conditionally objects to this proposal because:

1. It adds unnecessary complexity. Biogas could participate in the AWEA-proposed biomass set-aside.

2. If, however, the Commission or the legislature approve a dual credit approach for biogas, DRA believes that it should be in the form of pilot implementation and that the biogas resources should receive general renewable credits, rather than biomass credits under the AWEA plan.

3. The pilot should last three years. Its costs and benefits should then be evaluated. The program may be renewed if the implementing agency is satisfied with the costs and benefits of the program. Preferrably, the pilot should be folded into any biomass set-aside that may exist.

4. The pilot program must not cause the rate cap to be exceeded.

AWEA/CBEA/GEA/STEA Comments on Biogas Partial Proposal

OPPOSE. This partial plan proposes to give biogas double-value credits based on value of greenhouse gas abatement and extra cost of generation as compared to other renewable resources. Greenhouse gases are important, but are one of many values of renewables that are captured in proposal by AWEA et al. Landfills are required to have gas collection systems and fuel is free. Thus, most biogas generation should be cheaper than solid-fuel biomass (which requires fuel collection, processing, transportation, and handling) and should be able to compete within the RPS with other renewables without a double credit.

Sponsors of the Surcharge/Production Credit Proposal Comments on Biogas Proposal

1. <u>Increases cost unnecessarily for customers:</u> Separating out a single environmental contribution (reducing methane emissions) claiming entitlement to additional program funds as well as adding special credit purchase requirements is unnecessary and exorbitant.

2. <u>Gives unfair advantage to biogas over other renewables:</u> Doubling credits makes biogas plants first choice for buyers over competition until requirement is met.

3. Needs funding as RD&D: If this technology is truly pre-commercial, as the proposal description indicates, the CPUC proposed Pubic Goods Charge is the appropriate funding mechanism or possibly special legislation is the vehicle.

Comments of the Union of Concerned Scientists on Biogas Proposal

Oppose.
Good points: Accounts for greenhouse gas mitigation of biogas.
Bad points: Does not systematically account for full range of externalities.
Technology specific: does not offer same valuation for other technologies which mitigate release of greenhouse gases or offer other unique public benefits.

Comments of Southern California Edision on Biogas Proposal

This proposal can be an add-on to any of the MRPR proposals. Its key feature is that it doubles the value of a kwh generated from biogas combustion. It also complicates the program. While turning biogas into electricity undoubtedly has its environmental benefits, it is questionable whether they should receive twice the credits of other renewable technologies and whether the additional program administration cost and complexity is justified.

Comments of Roy Sharp on Biogas Proposal

[139 Words]

I am Roy Sharp, of Sharp Energy and Royal farms. For 15 years our 15,000 swine farm has successfully produced electricity from manure biogas, meeting electrical needs of our entire operation, selling surplus power to both Southern California Edison and Pacific Gas and Electric. I have been heavily involved in EPA's AgStar Program and I speak for the small anaerobic digester operators in the U.S

Facilitating biogas energy in the Biogas proposal coincides with farmers' interests in an increasingly important issue: odors, emissions and water quality with manure waste management. The use of biogas helps address climate change: Energy use of biogas is a major part of EPA's climate change action plan, endorsed by many utilities for the same reason. The biogas proposal to the CPUC should provide a win for everyone, including ultimately and most importantly, the public.

Comments of John Plamer, Sacramento County Energy Manager, on Biogas Proposal

Sacramento County is interested in developing its renewable power resources to the extent that it is economically possible. There are substantial sources of landfill gas within

Sacramento County that may be economic for us to develop with sufficient electrical energy revenues. We support the biogas group proposal which provides a revenue incentive that will help us develop our renewable resources as well as help the environment by preventing methane emissions.

Comments of SoCAL Gas on Adjunct Proposal by BWG

This adjunct proposal tries to establish that biogas qualifies for special treatment as a renewable resource because it could play a major role in reducing methane gas, a major greenhouse gas and a contnbutor to global warming. It calls for a greenhouse environmental credit valued at twice the regular renewable energy credit. The proposal also states it should qualify for a higher subsidy because it is an emerging technology.

This is an example of how costs to consumers are disregaded in favor of carving out a secure market for an expensive technology.